



# **IR-500**

## **Infrared Thermometer / Voltage Detector / Flashlight**

### **Users Manual**

- Mode d'emploi
- Bedienungshandbuch
- Manual d'Uso
- Manual de uso





# IR-500

**Infrared Thermometer /  
Voltage Detector /  
Flashlight**

English

## Users Manual

June 2011, Rev.1  
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## **Limited Warranty and Limitation of Liability**

Your Amprobe product will be free from defects in material and workmanship for 1 year from the date of purchase, unless local laws require otherwise. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Amprobe's behalf. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Test Tools Service Center or to an Amprobe dealer or distributor. See Repair Section for details. **THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STAUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED.** MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

## **Repair**

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

## **In-Warranty Repairs and Replacement – All Countries**

Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on [www.amprobe.com](http://www.amprobe.com) for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see address next page).

### **Non-Warranty Repairs and Replacement – US and Canada**

Non-warranty repairs in the United States and Canada should be sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test Tools or inquire at your point of purchase for current repair and replacement rates.

#### In USA

Amprobe Test Tools  
Everett, WA 98203  
Tel: 877-AMPROBE (267-7623)

#### In Canada

Amprobe Test Tools  
Mississauga, ON L4Z 1X9  
Tel: 905-890-7600

### **Non-Warranty Repairs and Replacement – Europe**

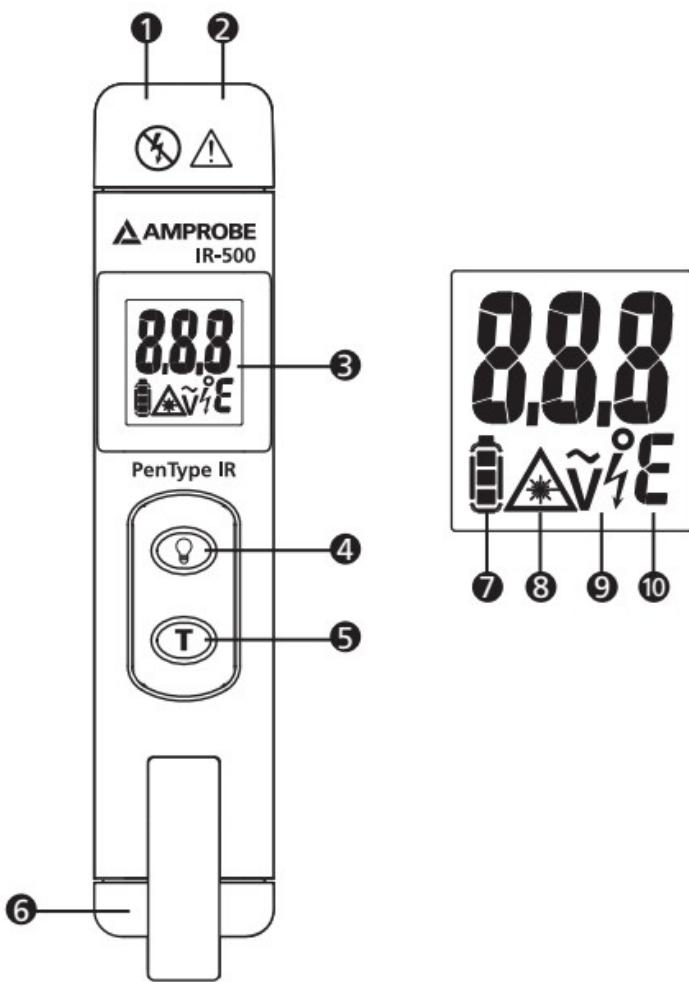
European non-warranty units can be replaced by your Amprobe® Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on [www.amprobe.com](http://www.amprobe.com) for a list of distributors near you.

#### European Correspondence Address\*

Amprobe® Test Tools Europe  
Beha-Amprobe GmbH  
In den Engematten 14  
79286 Glottertal, Germany  
Tel.: +49 (0) 7684 8009 - 0  
[www.amprobe.eu](http://www.amprobe.eu)

\*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)

# IR-500 Infrared Thermometer / Voltage Detector / Flashlight



- 1) Laser
- 2) Flash light
- 3) Display
- 4) Flash light button
- 5) On button / Test button
- 6) Battery cover
- 7) Battery indicator
- 8) Laser indicator
- 9) NCV indicator
- 10) °C / °F

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## SYMBOLS

	Caution! Refer to the explanation in this Manual
	Laser light. Do not stare into laser beam
	Caution ! Non-contact voltage
	Battery
	Do not apply directly or around bare hazardous live conductor.
	Conform to relevant Australian standards
	Complies with European Directives
	Do not dispose of this product as unsorted municipal waste. Contact a qualified recycler

### Safety Information



### Warning

- *Do not stare into laser beam.*
- *Do not point laser directly at eye or indirectly off reflective surfaces.*
- *For use by competent persons only.*
- *Do not leave the unit on or near objects of high temperature.*
- *Non-Contact Voltage function can only test on insulated wires. Testing on high voltage wires should keep a distance of 20mm minimum.*
- *Do not use the unit to sense wire voltage higher than 600V.*

## **⚠ Cautions**

*Use this unit only as specified in this manual or the protection provided by the unit may be impaired.*

*The unit should be protected from the following,*

- EMF (electro-magnetic fields) from arc welders, induction heaters*
- Static electricity*
- Thermal shock (caused by large or abrupt ambient temperature changes - allow 30 minutes for unit to stabilize before use)*

## **UNPACKING AND INSPECTION**

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Your shipping carton should include:

- 1 IR-500
- 1 1.5V AAA alkaline battery (installed)
- 1 Manual

If any of the items are damaged or missing, return the complete package to the place of purchase for an exchange.

## **INTRODUCTION**

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A must-have tool for everyday applications, verify temperature, voltage presence and use it as flash light in dark places. Compact and easy to use - just aim, press the button, and read surface temperatures in less than a second. You can safely measure surface temperatures of hot, hazardous, or hard-to-reach objects without contact.

## **Features**

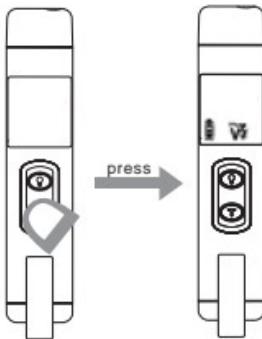
- IR temperature measurement with laser pointer
- Integrated non-contact AC voltage warning

- Holds temperature reading for 10 seconds
- Ultra white LED flashlight
- Selectable °F / °C
- Pocket clip

## OPERATING INSTRUCTIONS

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### Power On / Off



### Auto Power Off

3 minutes.

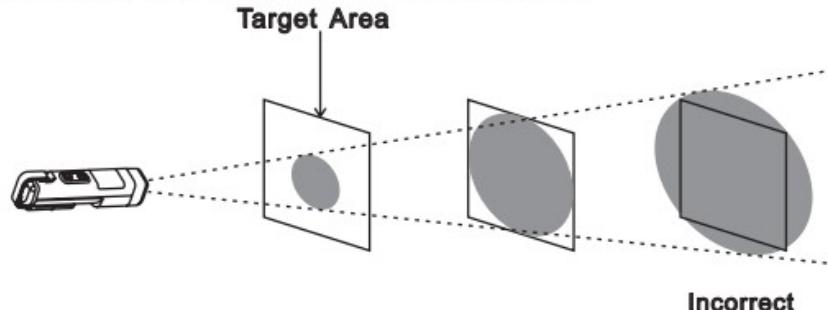
### Auto Hold

The unit will hold the reading for 10 sec after On button is released.

### Operating the Unit

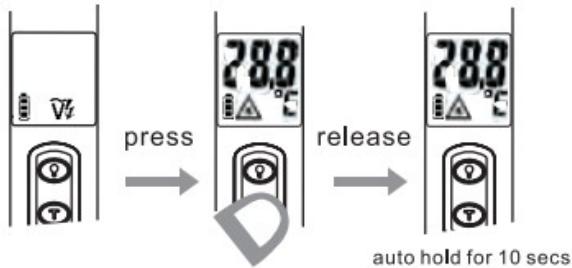
To measure a temperature, point unit at object and press the Test Button. Be sure to consider distance-to-spot size ratio and field of view. The unit is equipped with a laser, use the laser only for aiming. See "Making Temperature Measurement".

## Making Temperature Measurement

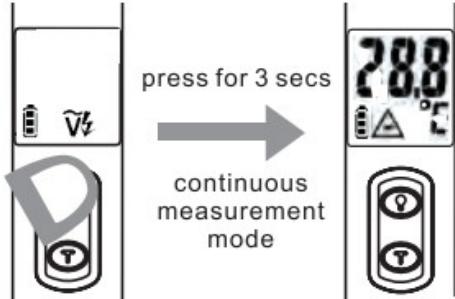


Make sure that the target is larger than the unit's spot size. The smaller the target, the closer you should be to it. The minimum measurement area is 3.75cm (1.5in) diameter.

Press the **T** key, the unit will show the temperature of target surface. Then release the **T** key, the LCD will hold the reading for 10 seconds.



Press the **l** key for 3 seconds, the unit will turn into the IR temperature continuous measurement mode.

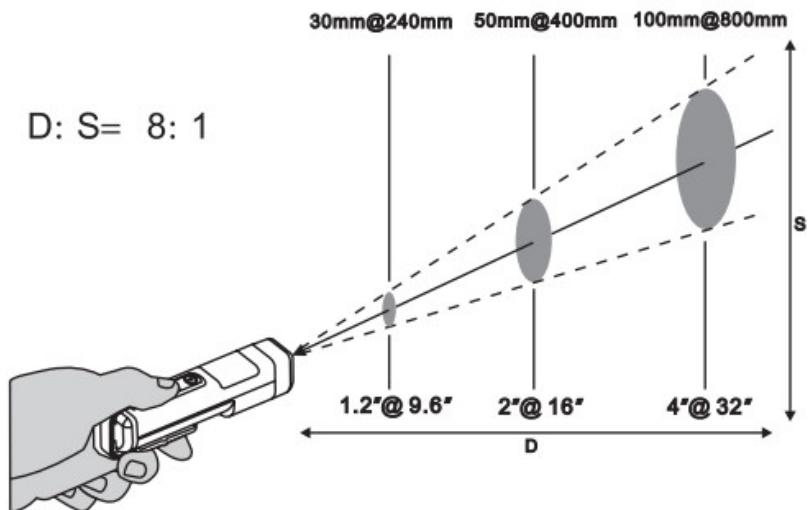


## **°C / °F Selection**

Press Test button and Flash light button for 2 sec at the same time for switching temperature unit °C / °F .

## **Distance & Spot Size**

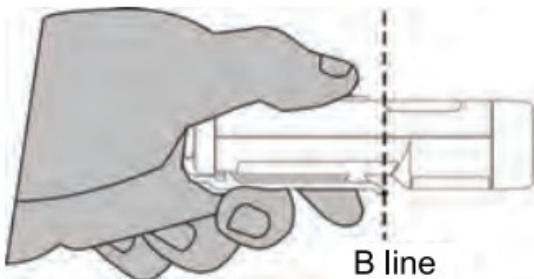
As the distance (D) from the object increases, the spot size (S) of the area measured by the unit becomes larger.



Use the unit at around 30cm to get the best measurement accuracy.

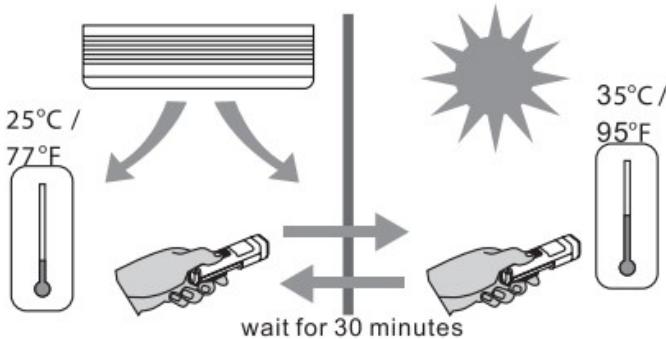
At longer distances, the target area shall be larger than the distance divided by 8.

Please do not put the fingers on the housing for long period of time and cross the "B line" to prevent from thermo effect interference of measuring accuracy.

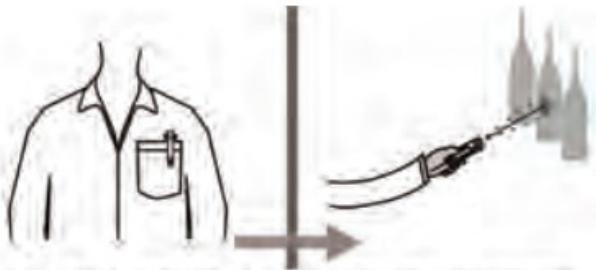


## Reminders

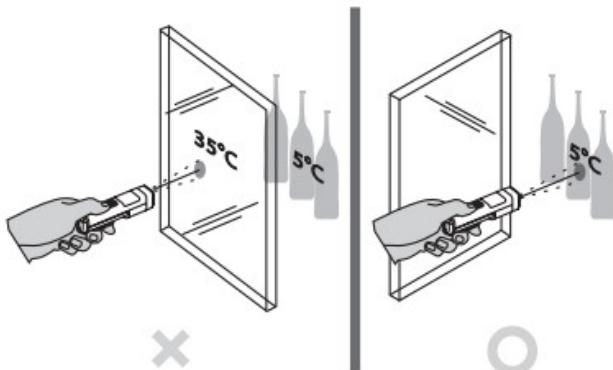
1. Changes of surrounding ambient temperature can result in inaccurate reading, allow time for the unit to adopt the change of ambient before use. Specified accuracy applies after 30 minutes when the unit changes to a different environment ambient.



Allow time for the unit to adopt the change of ambient from the user's pocket to environment ambient.



2. The unit cannot measure through transparent surfaces such as glass. Remove the barrier between the unit and the target surface.



3. Not recommended for use in measuring shiny or polished metal surfaces (stainless steel, aluminum, etc.). See Emissivity.
4. Steam, dust, smoke, etc., can prevent accurate measurement by obstructing the unit's optics

## Emissivity

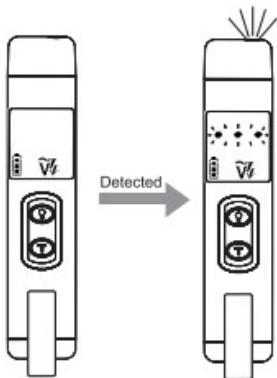
Most organic materials and painted or oxidized surfaces have an emissivity of 0.95 (pre-set in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate, cover the surface to be measured with masking tape or flat black paint. Allow time for the tape to reach the same temperature as the material underneath it. Measure the temperature of the tape or painted surface.

## Non-Contact Voltage

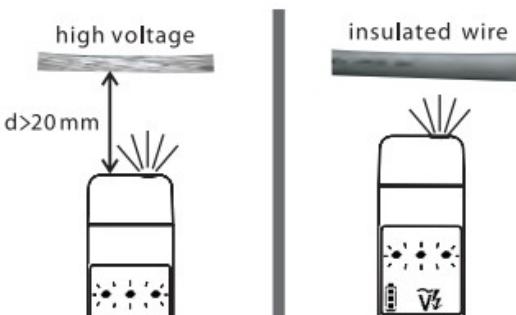
The Non-Contact Voltage function is ON automatically when the unit in standby mode.

When Non-Contact Voltage is sensed, the LCD flashes three dashes and flash light flashes.

The number of dashes displaying on LCD indicates the electric field intensity. The higher electric field is sensed, the more “-” symbols display on LCD.



Non-Contact Voltage function can only test on insulated wires. Testing on high voltage wires should keep a distance of 20mm minimum.



## SPECIFICATION

Temperature Range	-30°C to 500°C (-22°F to 932°F)
Accuracy at 23°C ±2°C <80% RH	-30°C to 0°C (-22°F to 32°F): ±2°C (±4°F) 1°C to 10°C (34°F to 50°F): ±1.5°C (±3°F) 11°C to 40°C (52°F to 104°F): ±1°C (±2°F) 41°C to 500°C (106°F to 932°F): ±1.5°C (±3°F) or ±1.5% of reading, whichever is greater.
Best display Resolution	0.2°C (0.5°F)
Response Time	0.5 s
Wavelength	6.5um to 18um
Emissivity	E=0.95
D:S	8:1(calculated at 80% energy)
Repeatability	±1°C or ±0.5% of reading, whichever is greater.
Display Hold	10 s
Non-Contact Voltage	60VAC ~ 600VAC
Power	1.5V AAA alkaline battery
Weight	Approx. 50g (0.11lb)
Dimensions (HxWxD)	100 x 20 x 29mm (3.94 x 0.79 x 1.14in)
Storage Temperature	-20°C to 60°C (without battery)

## CE Certification

This instrument conforms to the following standards:

- EN 61326-1 Electromagnetic Emissions and Susceptibility
- EN 61010-1 General Safety
- EN 60825-1 Laser Safety

## TROUBLESHOOTING

Code	Problem	Action
Battery icon appears	Possible low battery	Check and/or replace battery
Blank display	Possible dead battery	Check and/or replace battery
Laser doesn't work	Low or dead battery	Replace battery

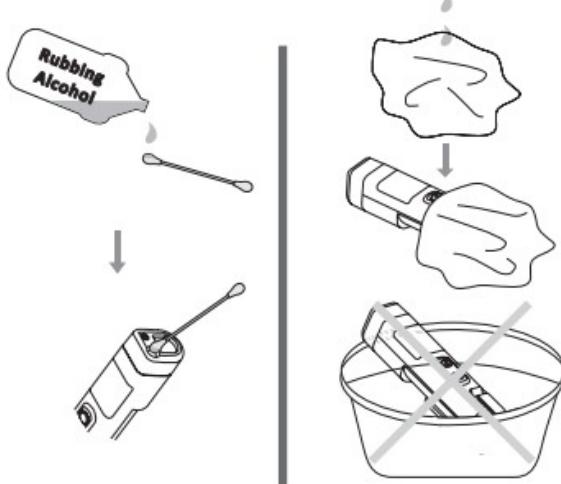
## MAINTENANCE AND REPAIR

**Lens Cleaning:** Blow off loose particles using clean compressed air. Gently brush remaining debris away with a camel's hair brush. Carefully wipe the surface with a moist cotton swab. The swab may be moistened with water or rubbing alcohol.

**NOTE:** DO NOT use solvents to clean the plastic lens.

**Case Cleaning:** Use soap and water on a damp sponge or soft cloth.

**NOTE:** DO NOT submerge the unit in water.



## BATTERY REPLACEMENT

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Please replace the battery when "Battery indicator" is flashing on display.

When battery is replaced / installed, the unit will go into standby mode automatically

